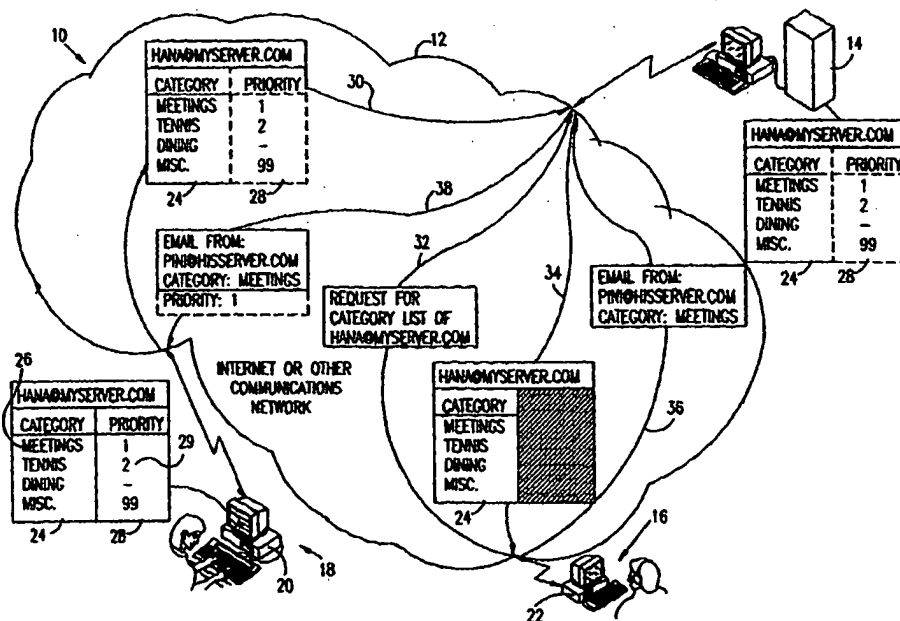




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(54) Title: E-MAIL PRIORITIZATION



## (57) Abstract

A method for storing electronic mail, including defining a category set (24) associated with a recipient, and providing the category set to a sender. The sender selects a category (26) therefrom for inclusion in an electronic mail message sent by the sender. The message, including the selected category, is received and sorted responsive to the selected category.

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## E-MAIL PRIORITIZATION

### FIELD OF THE INVENTION

The present invention relates to network-based electronic mail systems generally and particularly to methods and apparatus for prioritizing electronic mail.

### 5 BACKGROUND OF THE INVENTION

Network-based electronic mail (e-mail) systems are well known. Typically, a sender composes an e-mail message at a computer terminal using e-mail software, addresses the e-mail message to a recipient using the recipient's e-mail address that is known to the sender, and sends the e-mail message via a communications network, such as the Internet, to which the  
10 computer terminal is connected. The e-mail message is then routed over the communications network using known protocols and ultimately received at a server which is also connected to the communications network and to which the recipient may connect using the recipient's computer terminal. The recipient then retrieves the e-mail message from the server using e-mail software.

15 Known e-mail software allows e-mail messages to be listed and sorted in various ways, such as by date received and by sender or recipient. E-mail systems that allow for e-mail messages to be prioritized generally require that the sender indicate a specific priority and/or that the recipient configure the recipient's e-mail software to recognize words in incoming e-mail messages and/or apply other criteria to them. The primary disadvantage of known e-mail  
20 prioritization schemes is that they are given to abuse by senders and may result in incorrectly prioritized e-mail messages.

Sorting by message length, sender and subject is known.

Eudora is an electronic mail client which has a "filters" function which enables a recipient to define a subset of electronic mail messages automatically identifiable by the Eudora  
25 system and to define an action to be carried out automatically on this subset, such as making all messages in that subset a certain priority.

Unix e-mail systems such as Pine are capable of categorizing electronic mail messages by keywords appearing in the message itself rather than scanning only those keywords appearing in the message-defining fields such as the Subject field.

Microsoft's Outlook electronic mail system has an automatic confirmation feature which automatically confirms downloading of electronic mail messages.

Hotmail electronic mail system incorporates an advertisement of its services into each electronic mail message sent by a user, e.g. to a non-user.

5

## SUMMARY OF THE INVENTION

The present invention seeks to provide an improved network-based electronic mail system where a sender categorizes an e-mail message bound for a recipient based upon predefined categories set by the recipient and provided to the sender. Categorized e-mail messages are received by the recipient and are prioritized according to a priority level also predefined by the recipient for each category. The category priority levels are not provided to the sender, minimizing potential abuse by incorrect categorization.

There is thus provided in accordance with a preferred embodiment of the present invention a method for prioritizing electronic mail, the method including defining a category set associated with at least one recipient, the category set including at least one category, setting a priority level for any of the categories in the category set, providing to at least one sender, upon the sender providing an identification of the recipient, the category set for selection of a category therefrom, selecting a category from the category set for association with an electronic mail message, transmitting the electronic mail message together with the selected category to the recipient, and providing the electronic mail message to the recipient in accordance with the priority level corresponding to the selected category, thereby prioritizing.

Further in accordance with a preferred embodiment of the present invention the defining step includes defining the category set to include at least one category defined by the recipient.

Still further in accordance with a preferred embodiment of the present invention the defining step includes defining the category set to include at least one category not defined by the recipient.

Additionally in accordance with a preferred embodiment of the present invention the setting a priority level step includes setting a default priority level for any of the categories in the category set.

Moreover in accordance with a preferred embodiment of the present invention the

providing - category set step includes transmitting the category set via a communications network.

Further in accordance with a preferred embodiment of the present invention the transmitting step includes transmitting via a communications network.

5        There is also provided in accordance with a preferred embodiment of the present invention an electronic mail prioritization system including a communications network, a server connected to the communications network and including a category set associated with at least one recipient, the category set including at least one category, sender apparatus including electronic mail sender apparatus operative to send an electronic mail message via the  
10    communications network to the recipient, category set request apparatus operative to identify the recipient of the electronic mail message and retrieve from the server via the communications network the category set associated with the recipient, and category selection apparatus operative in response to a category selection to integrate the category selection with the electronic mail message, and recipient apparatus including electronic mail receiving apparatus  
15    operative to receive the electronic mail message via the communications network, and electronic mail prioritization apparatus operative to provide the electronic mail message to the recipient in accordance with a predefined priority level corresponding to the selected category.

There is additionally provided in accordance with a preferred embodiment of the present invention an electronic mail prioritization system including a communications network, a server  
20    connected to the communications network and including a category set associated with at least one recipient, the category set including at least one category, and a priority set corresponding to the category set, the priority set including at least one priority level-category pair, sender apparatus including electronic mail sender apparatus operative to send an electronic mail message via the communications network to the recipient, category set request apparatus  
25    operative to identify the recipient of the electronic mail message and retrieve from the server via the communications network the category set associated with the recipient, and category selection apparatus operative in response to a category selection to integrate the category selection with the electronic mail message, and recipient apparatus including electronic mail receiving apparatus operative to receive the electronic mail message via the communications  
30    network, the server further includes electronic mail prioritization apparatus operative to provide the electronic mail message to the recipient in accordance with the priority level corresponding to the selected category.

There is provided, in accordance with a preferred embodiment of the present invention, a method for sorting electronic mail, including:

defining a category set associated with a recipient;

providing the category set to a sender to select a category therefrom for inclusion in an electronic mail message sent by the sender;

receiving the electronic mail message including the selected category; and

sorting the electronic mail message responsive to the selected category.

Preferably, the method includes:

modifying an attribute of the category; and

conveying an indication of the modification to the sender.

Alternatively or additionally, the category set is provided by one of: electronic communication, vocal telephonic communication, and physical transfer.

Preferably, the method includes:

defining a criterion associated with the recipient;

providing the criterion to the sender; and

alerting the sender responsive to an action by the sender not in accordance with the criterion.

There is further provided, in accordance with a preferred embodiment of the present invention, a method for processing electronic communications, including:

defining respective category sets associated with a plurality of recipients, the sets being such as to enable the recipients to sort electronic mail responsive thereto;

determining, responsive to the sets, a subset of the recipients having a common characteristic; and

crediting a recipient in the subset for sending an electronic communication to another recipient in the subset.

There is still further provided, in accordance with a preferred embodiment of the present invention, a method for increasing a user-base, including:

receiving an electronic communication message from a non-user;

reading an electronic mail address from the message; and

automatically sending to the non-user a promotional message.

Preferably, the promotional message includes an offer of a service, most preferably an offer of an electronic-mail-related service.

There is also provided, in accordance with a preferred embodiment of the present invention, a computer program product for sorting electronic mail, the program having computer-readable program instructions embodied therein, which instructions cause a computer to:

define a category set associated with a recipient;

5        provide the category set to a sender to select a category therefrom for inclusion in an electronic mail message sent by the sender;

receive the electronic mail message including the selected category; and

sort the electronic mail message responsive to the selected category.

There is additionally provided, in accordance with a preferred embodiment of the present invention, a computer program product for processing electronic communications, the program  
10        having computer-readable program instructions embodied therein, which instructions cause a computer to:

define respective category sets associated with a plurality of recipients, the sets being such as to enable the recipients to sort electronic mail responsive thereto;

15        determine, responsive to the sets, a subset of the recipients having a common characteristic; and

credit a recipient in the subset for sending an electronic communication to another recipient in the subset.

There is still additionally provided, in accordance with a preferred embodiment of the present invention, a computer program product for increasing a user-base, the program having  
20        computer-readable program instructions embodied therein, which instructions cause a computer to:

receive an electronic mail message from a non-user;

read an electronic mail address from the message; and

25        automatically send to the non-user a promotional message.

It is noted that throughout the specification and claims, the terms "sender" and "recipient" may refer to the sender or recipient of electronic mail, being a human or surrogate therefor, as well as such sender or recipient in combination with a communications terminal via which such sender or recipient is currently logged in to a communications network and with  
30        which such sender or recipient is currently identified with respect to the communications network.

## BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be understood and appreciated more fully from the following detailed description, taken in conjunction with the drawings in which:

Fig. 1 is a simplified pictorial illustration of an e-mail prioritization system constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 2 is a simplified block diagram of sender apparatus 16 of Fig. 1;

Fig. 3 is a simplified block diagram of recipient apparatus 18 of Fig. 1;

Fig. 4 is a simplified graphical illustration of a category selection screen displayed at sender apparatus 16 of Figs. 1 and 2;

Fig. 5 is a simplified graphical illustration of an electronic mail prioritization screen displayed at recipient apparatus 18 of Figs. 1 and 3;

Fig. 6 is a simplified block diagram of a electronic mail system with optional servers, the system being constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 7 is a simplified screen display of a recipient calling card constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 8 is a simplified screen display of an electronic mail envelope constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 9 is a simplified screen display of a plurality of electronic mail processing trays, the screen display being constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 10 is a state machine diagram of steps for processing electronic mail messages, constructed and operative in accordance with a preferred embodiment of the present invention; and

Fig. 11 is a state machine diagram of steps in sending electronic mail messages in accordance with a preferred embodiment of the present invention.



## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Reference is now made to Fig. 1, which is a simplified pictorial illustration of an electronic mail prioritization system 10 constructed and operative in accordance with a preferred embodiment of the present invention. System 10 preferably includes a communications network 12, such as the Internet, with an optional server 14 connected to communications network 12. Sender apparatus 16 and recipient apparatus 18 are shown typically comprising respective computer terminals 20 and 22, being any known computer terminals configured for communication via network 12, as is well known.

Additional reference is now made to Fig. 2 in which sender apparatus 16 is shown as typically including electronic mail apparatus 40 which is capable of sending electronic mail messages via communications network 12 to a recipient at recipient apparatus 18 using methods and techniques known in the art, in accordance with a preferred embodiment of the present invention. Sender apparatus 16 also typically includes "category set request apparatus" 42 for identifying a recipient of an outgoing electronic mail message and retrieving from server 14, preferably via communications network 12, a category set associated with the recipient. Sender apparatus 16 also typically includes category selection apparatus 44, for allowing a sender to select a category from the category set and integrating the category selection with the electronic mail message.

Additional reference is now made to Fig. 3, in which recipient apparatus 18 is shown as typically including electronic mail apparatus 50, which is capable of receiving electronic mail messages and categories sent by sender apparatus 16 via communications network 12 using methods and techniques known in the art. Recipient apparatus 18 also typically includes electronic mail prioritization apparatus 52 for providing electronic mail messages to a recipient in accordance with a predefined priority level corresponding to the selected category associated with each received electronic mail message.

It is appreciated that sender apparatus 16 may be concurrently configured to operate as recipient apparatus 18, and vice versa.

Typical operation of electronic mail prioritization system 10 is now described in detail with reference to Figs. 1, 2, and 3. A category set 24 is defined, typically at recipient apparatus 18, by a potential electronic mail recipient, such as a recipient identified as "hana@myserver.com," who wishes to receive prioritized electronic mail. Category set 24

preferably includes one or more categories 26, such as "meetings" and "tennis," representing groupings into which the recipient wishes incoming electronic mail to be arranged. Category set 24 may also include one or more "dummy" categories, such as "dining," whose purpose is to prevent senders of electronic mail from inferring the relative importance of the categories in category set 24 and incorrectly categorizing electronic mail according to which category the sender infers is most important.

A priority set 28 is preferably defined, typically by the recipient, including one or more priority levels 29, with each priority level 29 corresponding to a category 26 in category set 24. The priority levels may be represented numerically or otherwise, as is known. A default priority level may be assigned to categories for which no priority level is set.

Electronic mail prioritization apparatus 52 may be used to define category set 24 and priority set 28, or sets 24 and 28 may alternatively be defined using known database or word processing software in a format that is readable by electronic mail prioritization apparatus 52. It will be understood that category set 24 can comprise any set of discrete entries, and is not restricted to subject topics associated with an e-mail. Additionally, "importance" and "complexity" indicators, as described hereinbelow, are described by way of example, but are not intended to be limited to indicating importance and complexity levels, *per se*, of an e-mail. Instead, these indicators generally relate to quantifiable qualities associated with an e-mail, and may, alternatively or additionally, include file size, number of attachments, size of "cc:" list, etc.

Once defined, category set 24 is sent to server 14, shown via a transmission 30, typically via communications network 12 using electronic mail apparatus 50 or other using other known transmission means. Additionally, priority set 28 may also be sent to server 14 in the same manner. Server 14 typically maintains category set 24 and priority set 28 using known storage means. It will be appreciated that server 14 is utilized in some preferred embodiments of the present invention, such as that shown in Fig. 1, but that it is not a necessary component of the present invention. For example, category set 24, which is described as being maintained in server 14 could also be maintained in recipient apparatus 18.

A sender, such as a sender identified as "pini@myserver.com," typically composes at sender apparatus 16 an electronic mail message using known means such as electronic mail apparatus 40. Category set request apparatus 42 preferably identifies the intended recipient of the message from the destination address of the message provided by the sender, either while the message is being composed or when the sender initiates a request to transmit the message.

Category set request apparatus 42 typically identifies server 14 from the recipient's address using known protocols and requests the recipient's category set 24 from server 14, shown via a transmission 32. Server 14 then provides category set 24 to sender apparatus 16 using known protocols, such as FTP or HTTP, shown via a transmission 34. Alternatively, the address of server 14 may already be known to category set request apparatus 42, and no address resolution is required. It is appreciated that the server from which category set request apparatus 42 requests and receives the category set is optional, and need not be the server to which the message is sent.

Once category set 24 is received at sender apparatus 16, category selection apparatus 44 presents category set 24 to the sender, typically via a display of computer terminal 22 using known means. The sender then selects a category from category set, 24 which category selection apparatus 44 subsequently appends to the message, or otherwise integrates with the message, in a manner that is preferably acceptable to or in accordance with known electronic mail protocols. For example, the category may be included within the subject field of the message header or within the body of the message, or otherwise appended to or integrated with the message using any of a variety of well-known methods and in a manner that does not violate known electronic mail protocols. Where the category is included within the body of the message, a prefix or other means may be employed to distinguish the category from the body of the text itself. Electronic mail apparatus 40 then sends the message to server 14, shown via a transmission 36.

In accordance with one preferred embodiment of the present invention, server 14 maintains both a recipient's category set 24 and priority set 28. Electronic mail messages received at server 14 and bound for the recipient are arranged by category and forwarded to the recipient at recipient apparatus 18 in an order corresponding to the category's priority, shown via a transmission 38. Messages received with no category are forwarded to the recipient corresponding to a predetermined or default priority, such as the lowest priority in priority set 28.

In accordance with another preferred embodiment of the present invention, server 14 maintains only a recipient's category set 24, while recipient apparatus 18 maintains priority set 28. Electronic mail messages received at server 14 and bound for the recipient are forwarded to the recipient at recipient apparatus 18 in the order received. Alternatively, e-mail messages are sent directly to the recipient. Messages received at recipient apparatus 18 are subsequently

arranged by category and presented to the recipient by electronic mail apparatus 50 in an order corresponding to the category's priority. Messages received with no category are presented to the recipient in an order corresponding to a predetermined or default priority, such as the lowest priority in priority set 28.

5 Additional reference is now made to Fig. 4, which is a simplified graphical illustration of a category selection screen displayed at sender apparatus 16 of Figs. 1 and 2, in accordance with a preferred embodiment of the present invention. An electronic mail composition interface 60 of electronic mail apparatus 40 is shown comprising a "to" field 62, into which a recipient's e-mail address is entered. Either upon entering an address into "to" field 62, or upon pressing a  
10 send button 64, a category selection interface 66 of category selection apparatus 44 preferably appears, listing the categories received by category set request apparatus 42, as described hereinabove. A category may then be selected and incorporated into the message as described hereinabove.

Additional reference is now made to Fig. 5, which is a simplified graphical illustration of  
15 an electronic mail prioritization screen displayed at recipient apparatus 18 of Figs. 1 and 3, in accordance with a preferred embodiment of the present invention. An electronic mail new message interface 70 of electronic mail apparatus 50 is shown with several received messages 72 having been sorted by electronic mail prioritization apparatus 52 and displayed in order of priority.

20 Fig. 6 is a simplified block diagram of an electronic mail system, constructed and operative in accordance with a preferred embodiment of the present invention. As shown, the system of Fig. 6 includes a handshaking, multi-tray client 100 which may interface with a network 120 over which electronic mail is sent, such as the Internet, via a conventional electronic service provider 110 such as a conventional ISP (Internet Service Provider). The  
25 client may perform at least one, and preferably both of the motion-between-virtual-tray and sending-electronic-mail functions described below with reference to Figs. 10 and 11 respectively.

A router 140 interfacing with the network 120 via an ISP backbone 130 is operative to transmit "virtual calling cards," profiling each user's electronic mail receiving preferences, from  
30 a calling card database 160 comprising individual users' calling cards. A sample calling card is illustrated in Fig. 7. The backbone 130, which connects the servers to the Internet, may use frame relay protocol.

In the illustrated embodiments, servers are employed to perform the handshake between potential senders and potential recipients by displaying a "calling card" of potential recipients to potential senders. Alternatively, however, the servers may be omitted and calling cards may, for example, be exchanged directly between users.

5        Fig. 7 is a simplified screen display of a sample recipient calling card, constructed and operative in accordance with a preferred embodiment of the present invention. As shown, the calling card contains information regarding the electronic mail receiving and reading habits of the user. The calling card may include freely-formatted information, as in the sample, or, alternatively or additionally, may comprise a form whose fields are filled in by the owner of the  
10        calling card. For example, the user may assign the value "daily" to a parameter "reading frequency." The calling card typically comprises a content topic area 170, showing content topics which the user is in the habit of corresponding about, such as "computers," "geography," and "international friends."

15        Preferably, a sender is enabled to select one or more of the entries in area 170, to allow automatic sorting of the e-mail message in the receiver's computer. Further preferably, the user can specify some of the topic areas in area 170 as "password protected," such that only senders having an appropriate password can designate the protected entry. Additionally, the user can password-protect a topic area such that only selected senders can see the topic name, e.g., "Surprise party for Jill."

20        Additional options, which can be designated by the user when creating or modifying his calling card, preferably include formatted fields indicating preferred formats or qualities of received e-mail. For example, the user can specify preferences for e-mails which are less than 1 Megabyte, e-mails without attachments, e-mails with subject lines, e-mails without obscene language, etc. In a preferred embodiment, the sender automatically receives a warning message  
25        from his own machine, preferably while composing the e-mail, if he violates any of the requested message characteristics included in the receiver's calling card.

Preferably, the user's computer automatically transmits a new copy of the calling card to all current holders of the card responsive to changes in the content of the card.

30        It is noted that the user of these embodiments is enabled to exercise unprecedented levels of control over incoming e-mail, based on the prior distribution of a calling card as described hereinabove.

In some applications of the present invention, common topics specified by a plurality of users, e.g., "fishing," are used to enable targeted marketing to those users. In a preferred embodiment, a group of users sharing a common interest is identified, and one of the group receives a set of one or more advertisements. She is informed that she will receive a credit for forwarding the advertisement(s) to some or all of the other members of the group. A "credit," in the context of the present patent application and in the claims, means an item of value, most typically points which have a value to the possessor thereof, or money. It is believed that advertising forwarded by a friend, or by a person with similar interests, has a greater likelihood of generating a positive response than advertising received "cold."

Alternatively or additionally, the operator of server 14 may propose to two users having a common topic that their names be revealed to each other (optionally, for a fee). This may be particularly desirable as a way to introduce sellers to interested buyers. It is generally preferable, therefore, to route via server 14 calling cards which are sent between users, so that identification of users with common interests is possible. Because the content of an e-mail message itself is preferably kept private, e-mail messages are generally routed using methods known in the art, and not necessarily via server 14.

Alternatively or additionally, calling cards are routed using standard methods, including, for example, e-mail, a corporate intranet, a telephone call and regular (non-electronic) mail.

Fig. 8 is a simplified screen display of an electronic mail envelope, constructed and operative in accordance with a preferred embodiment of the present invention. Preferably, the envelope is displayed prior to displaying the electronic message or, alternatively, concurrently therewith. Typically, the envelope includes information regarding time characteristics and other characteristics of processing which the sender is applying to the e-mail message. In the illustrated embodiment, the sender has characterized the message as having high complexity and high priority, and has requested that receipt of the e-mail be confirmed by 3/4/99, that necessary action be taken by 10/4/99, and that the e-mail be answered by 12/4/99.

Preferably, the sender selects some of the characteristics applied to the envelope, e.g., the confirm, action, and reply dates, by moving appropriate icons onto designated areas of the screen. Fig. 8 shows, for example, confirm, action, and reply "balls" which can be placed onto selected dates on a calendar. In a default operational mode, these dates, which are specified by the sender, are copied directly into a scheduling program on the receiver's computer when the e-mail is received. Parameters of this operation can preferably be varied by the receiver, such

as options for automatic or semi-automatic copying, or copying only for mail received from a predefined list of senders (e.g., boss, family members, and those including a predetermined password on the envelope). In this manner, the scheduling program operating on the receiver's computer preferably generates attention messages, responsive substantially only to the sender's selection, and generally not requiring an action by the receiver.

Alternatively or additionally, other information included on the envelope is automatically or semi-automatically integrated into a program operating on the receiver's computer. For example, the sender's post-office address and phone number may be copied into Microsoft Outlook.

The receiver is preferably enabled to change any of the attributes specified by the sender. For example, he may reduce the importance of a given e-mail, or change the action date associated therewith by "right-clicking" on the icon representing the message and selecting an appropriate option displayed responsive to the right-clicking. Additionally, the user is preferably prompted to indicate whether the attribute change should be forwarded to the sender. Thus, for example, a sender who marks all of his e-mail "High priority" will learn that the receiver often feels differently. Alternatively, the receiver can indicate to the sender, using this facility, that he plans to take action on the e-mail one week prior to the date originally specified by the sender.

In a preferred embodiment, every message sent by a user of aspects of the present invention, has appended thereto a short message offering the recipient the opportunity to obtain software, e.g., by downloading from a designated Web site, that would enable the recipient to practice the present invention. Alternatively or additionally, whenever a user of software as described herein receives an e-mail message that is not in accordance with the present invention (e.g., it does not have a calling card), the user's computer automatically sends a reply e-mail stating, for example, "Dear Sender, in order to increase the quality of our electronic communications, why don't you download free software from [www.e-nvelopes.com](http://www.e-nvelopes.com)." This latter option --a first party automatically sending an offer to a second party responsive to an electronic communication generated by the second party-- can be used according to some embodiments of the present invention as a general-purpose means for generating an increased user-base, either in conjunction with or in the absence of other features described in the present application.

Fig. 9 is a simplified screen display of a plurality of electronic mail processing trays, the screen display being constructed and operative in accordance with a preferred embodiment of

the present invention. The trays typically serve as means for placing each one of multiple pieces of e-mail into different categories, responsive to the user's next appropriate action with respect to the various e-mails. Thus, the trays in the illustrated embodiments are a "confirm receipt" tray 200, a "read" tray 210, a "respond" tray 220, an "act" tray 230, and a "follow-up" tray 240.

5 These trays are shown by way of example, and it will be appreciated by one skilled in the art that other trays may be useful for some applications. Preferably, the user is enabled to create new trays, delete trays, and re-arrange the trays, in order to achieve his organizational goals. Typically, the user and/or his computer manages e-mail correspondence by placing each piece of received e-mail into one of the trays, e.g., confirm tray 200, and subsequently moving some  
10 or all of the e-mails, as appropriate, through the remaining trays, or, alternatively, archiving or discarding a particular e-mail.

Preferably, an e-mail which has been received, but not yet reviewed, is automatically placed into confirm tray 200. Typically, although not necessarily, a "confirm receipt" message is automatically generated and sent to the sender of a particular piece of e-mail responsive to the  
15 user's first significant interaction with the e-mail, e.g., double-clicking on the e-mail. Prior to this interaction, a confirmation message is preferably not sent, thereby reducing disagreements wherein the sender claims that a confirmation was received, while the receiver claims that he never saw the e-mail.

Preferably, the user or the system can define a plurality of configurations which govern  
20 how the system will display and process the mail. In the illustrated embodiment, four exemplary configurations are shown:

- I'm in a panic,
- Never mind,
- Late at night, and
- 25 • Plenty of time.

These configurations are typically designated by the user, although some may come pre-set. Generally, the configurations correspond to different modes in which the user would like to work. For example, in the "panic" configuration, only the most urgent e-mails are displayed, and in the "late at night" configuration, all low-complexity e-mails are displayed, regardless of  
30 urgency. Similarly, in the "plenty of time" configuration, all e-mails are displayed. When the user first loads the e-mail program in a particular session, he typically selects a configuration



responsive to his current time constraints. Alternatively or additionally, configurations are set in accordance with other criteria, such as business mail, family mail, mail with audio attachments, mail smaller than 10 Kilobytes, mail with subject lines, or mail having a particular password.

5 According to a preferred embodiment of the present invention, a user can define mandatory processing rules, on his own behalf or on behalf of a group of recipients. The system then automatically moves messages from one tray to another in accordance with the mandatory processing rules. For example, the mandatory processing rules may comprise a sequencing of the trays such that electronic messages are always moved through the plurality of  
10 trays in a defined order, without skipping any of the sequenced trays. Typically, the trays are positioned in the display in accordance with their position in the sequence. Alternatively, messages are "manually" moved from one tray to another tray, for example, by dragging the icon corresponding to a given message from to the target tray.

Fig. 9 additionally shows an optional "importance" slide-bar and an optional  
15 "complexity" slide-bar, which can be adjusted by the user to apply respective filters to the e-mail messages in the trays. For example, setting the importance slide-bar to "Highest importance" will show icons representing only those e-mails which are marked accordingly. Additionally, slide-bars for other attributes (not shown), such as due-date, message size, number of attachments, etc., may optionally be designated by the user.

20 Fig. 10 is a state machine diagram of steps used in processing electronic mail messages, constructed and operative in accordance with a preferred embodiment of the present invention. A plurality of possible execution sequences are shown in Fig. 10, for example, confirm receipt of message → read message → respond to message → archive message. Alternatively, a user could confirm, read, and then trash a given message. Generally, the state machine diagram is  
25 executed in accordance with descriptions of preferred embodiments described hereinabove.

Fig. 11 is a state machine diagram of steps used in sending electronic mail messages, in accordance with a preferred embodiment of the present invention. For example, a user may address and "cc:" his message to a selected set of recipients, compose the message, receive feedback about the message responsive to the various recipients' calling cards, generate  
30 envelopes (as described hereinabove), and send the message.

It is appreciated that components of the present invention may be implemented in

computer hardware, software, or any suitable combination thereof using conventional techniques. It is appreciated that various features which, for clarity, are described in the context of separate embodiments may also be provided in combination in a single embodiment. Conversely, various features of the invention which are, for brevity, described in the context of a single embodiment may also be provided separately or in any suitable combination.

It will be understood by one skilled in the art that aspects of the present invention described hereinabove can be embodied in a computer running software, and that the software can be stored in tangible media, e.g., hard disks, floppy disks or compact disks, or in intangible media, e.g., in an electronic memory, or on a network such as the Internet. It will be appreciated by persons skilled in the art that the present invention is not limited by what has been particularly shown and described hereinabove. Rather the scope of the present invention is defined only by the claims that follow:

**CLAIMS**

1. A method for prioritizing electronic mail, the method comprising:  
defining a category set associated with at least one recipient, said category set comprising at least one category;  
5 setting a priority level for any of said categories in said category set;  
providing to at least one sender, upon said sender providing an identification of said recipient, said category set for selection of a category therefrom;  
selecting a category from said category set for association with an electronic mail message;  
10 transmitting said electronic mail message together with said selected category to said recipient; and  
providing said electronic mail message to said recipient in accordance with said priority level corresponding to said selected category, thereby prioritizing.
2. A method according to claim 1 wherein said defining step comprises defining said  
15 category set to include at least one category defined by said recipient.
3. A method according to claim 1 wherein said defining step comprises defining said category set to include at least one category not defined by said recipient.
4. A method according to claim 1 wherein said setting a priority level step comprises setting a default priority level for any of said categories in said category set.
- 20 5. A method according to claim 1 wherein said providing - category set step comprises transmitting said category set via a communications network.
6. A method according to claim 1 wherein said transmitting step comprises transmitting via a communications network.
7. An electronic mail prioritization system comprising:  
25 a communications network;  
a server connected to said communications network and comprising a category set associated with at least one recipient, said category set comprising at least one category;  
sender apparatus comprising:  
electronic mail sender apparatus operative to send an electronic mail message  
30 via said communications network to said recipient;

category set request apparatus operative to identify said recipient of said electronic mail message and retrieve from said server via said communications network said category set associated with said recipient; and

category selection apparatus operative in response to a category selection to  
5 integrate said category selection with said electronic mail message; and

recipient apparatus comprising:

electronic mail receiving apparatus operative to receive said electronic mail message via said communications network; and

electronic mail prioritization apparatus operative to provide said electronic mail  
10 message to said recipient in accordance with a predefined priority level corresponding to said selected category.

8. An electronic mail prioritization system comprising:

a communications network;

a server connected to said communications network and comprising:

15 a category set associated with at least one recipient, said category set comprising at least one category; and

a priority set corresponding to said category set, said priority set comprising at least one priority level-category pair;

sender apparatus comprising:

20 electronic mail sender apparatus operative to send an electronic mail message via said communications network to said recipient;

category set request apparatus operative to identify said recipient of said electronic mail message and retrieve from said server via said communications network said category set associated with said recipient; and

25 category selection apparatus operative in response to a category selection to integrate said category selection with said electronic mail message; and

recipient apparatus comprising electronic mail receiving apparatus operative to receive said electronic mail message via said communications network,

30 wherein said server further comprises electronic mail prioritization apparatus operative to provide said electronic mail message to said recipient in accordance with the priority level corresponding to said selected category.

9. A system for categorizing electronic mail, operative in conjunction with at least one

electronic mail sending function and at least one electronic mail receiving function, the system comprising:

a customized electronic mail categorization scheme builder enabling each individual electronic mail recipient, employing at least one electronic mail receiving function to receive electronic mail from at least one sender, and further employing at least one electronic mail sending function, to define his own individual electronic mail categorization scheme and to display his individual scheme to the at least one sender; and

an electronic mail categorizer, operative to link individual electronic mail messages with sender-determined categorizations thereof, and to provide a categorized display of electronic mail received by an individual recipient, the display being categorized at least partly in accordance with sender-determined categories within the individual recipient's individual electronic mail categorization scheme.

10. A system according to claim 9 wherein said categorization scheme comprises at least one set of ordered categories.

11. A system according to claim 10 wherein the ordering between said set of ordered categories is recipient-defined.

12. A system according to claim 10 wherein said at least one set of ordered categories comprises an importance category set comprising a plurality of recipient-defined categories of importance.

13. A system according to claim 10 wherein said at least one set of ordered categories comprises a complexity category set comprising a plurality of recipient-defined categories of complexity.

14. A system according to claim 10 wherein said at least one set of ordered categories comprises a topical category set comprising a plurality of recipient-defined topical categories, each category pertaining to a different content topic.

15. A system according to claim 9 wherein the categorized display of electronic mail received by an individual recipient is only partly based on sender-determined categories and is partially overridden in accordance with overriding categorization instructions determined by the individual recipient.

16. A system according to claim 15 wherein said system is operative to provide at least one sender with notification if his sender-determined categories defined for an electronic mail

message sent from the sender to a recipient, are overridden by the overriding categorization instructions determined by that recipient.

17. A system according to claim 9 wherein said at least one sender comprises a group of senders having a common attribute associated therewith.

18. An electronic mail management system operative in conjunction with an electronic mail sending function and an electronic mail receiving function, the system comprising:

a user display presenting a plurality of trays representing stages of processing electronic mail messages; and

an electronic mail message mover operative to move electronic mail messages from one stage to another.

19. A system according to claim 18 wherein said electronic mail message mover is operative, responsive to a user input, to modify an attribute of at least one electronic mail message, wherein modifying comprises one of: moving said at least one electronic message from at least one first tray to at least one second tray, changing a date associated with said at least one electronic message, and changing an importance associated with said at least one electronic message.

20. A system according to claim 18 wherein said electronic mail message mover is operative to move at least one electronic mail message from at least one first tray to at least one second tray responsive to system-collected information regarding the current stage of processing of at least one individual electronic mail message.

21. A system according to any of claims 18 - 20 wherein said plurality of trays comprises at least one of the following trays:

a confirm tray for electronic mail messages not yet confirmed;

a read tray for electronic mail messages not yet read by the recipient;

a respond tray for electronic mail messages not yet responded to by the recipient;

an act tray for electronic mail messages not yet acted upon by the recipient; and

a follow-up tray for electronic mail messages requiring input from a third party and not yet followed up by the recipient to determine whether said input has been received; and

an archive tray for electronic mail messages which require storage but require no further processing.

22. A system according to any of claims 9 - 16 which performs a promotional reach-out

function operative to incorporate a promotional message into at least some messages sent through the system.

23. A system according to any of claims 9 - 16 and also comprising a responsive promotional function operative to automatically respond to a message received through the system by sending a promotional message.

24. A system according to any of claims 18 - 21 and also comprising a promotional reach-out function operative to incorporate a promotional message into at least some messages sent through the system.

25. A system according to any of claims 18 - 21 and also comprising a responsive promotional function operative to automatically respond to a message received through the system by sending a promotional message.

26. A method for sorting electronic mail, comprising:  
defining a category set associated with a recipient;  
providing the category set to a sender to select a category therefrom for inclusion in an electronic mail message sent by the sender;  
receiving the electronic mail message including the selected category; and  
sorting the electronic mail message responsive to the selected category.

27. A method according to claim 26, and comprising:  
modifying an attribute of the category; and  
conveying an indication of the modification to the sender.

28. A method according to claim 26, wherein providing the category set comprises providing the category set by one of: electronic communication, vocal telephonic communication, and physical transfer.

29. A method according to claim 26, and comprising:  
defining a criterion associated with the recipient;  
providing the criterion to the sender; and  
alerting the sender responsive to an action by the sender not in accordance with the criterion.

30. A method for processing electronic communications, comprising:  
defining respective category sets associated with a plurality of recipients, the sets being such as to enable the recipients to sort electronic mail responsive thereto;

determining, responsive to the sets, a subset of the recipients having a common characteristic; and

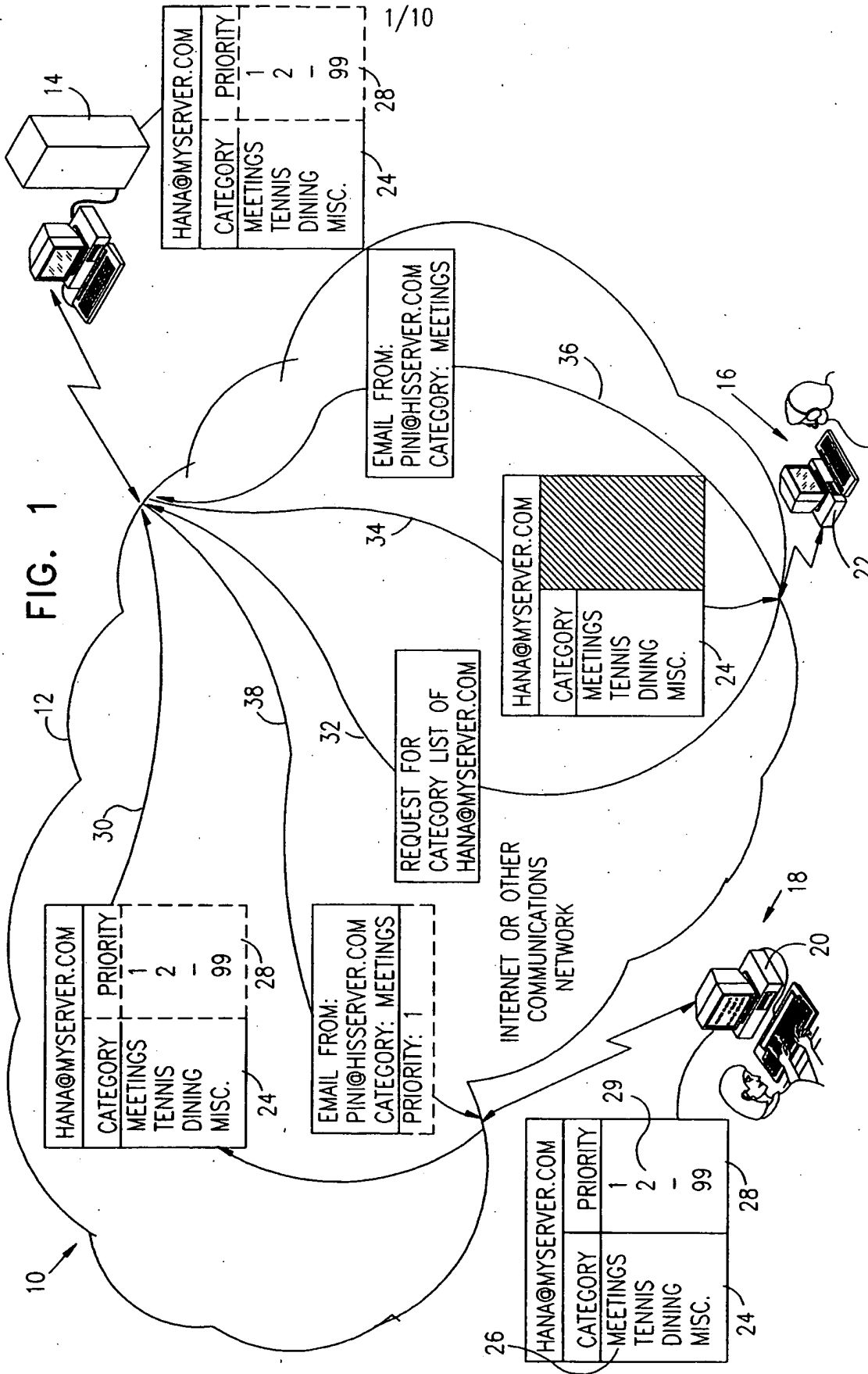
crediting a recipient in the subset for sending an electronic communication to another recipient in the subset.

- 5 31. A method for increasing a user-base, comprising:  
receiving an electronic communication message from a non-user;  
reading an electronic mail address from the message; and  
automatically sending to the non-user a promotional message.
32. A method according to claim 31, wherein the promotional message comprises an offer  
10 of a service.
33. A method according to claim 31, wherein the promotional message comprises an offer of an electronic-mail-related service.
33. A computer program product for sorting electronic mail, the program having computer-readable program instructions embodied therein, which instructions cause a computer to:  
15 define a category set associated with a recipient;  
provide the category set to a sender to select a category therefrom for inclusion in an electronic mail message sent by the sender;  
receive the electronic mail message including the selected category; and  
sort the electronic mail message responsive to the selected category.
- 20 34. A computer program product for processing electronic communications, the program having computer-readable program instructions embodied therein, which instructions cause a computer to:  
define respective category sets associated with a plurality of recipients, the sets being such as to enable the recipients to sort electronic mail responsive thereto;  
25 determine, responsive to the sets, a subset of the recipients having a common characteristic; and  
credit a recipient in the subset for sending an electronic communication to another recipient in the subset.
35. A computer program product for increasing a user-base, the program having computer-readable program instructions embodied therein, which instructions cause a computer to:  
30 receive an electronic mail message from a non-user;

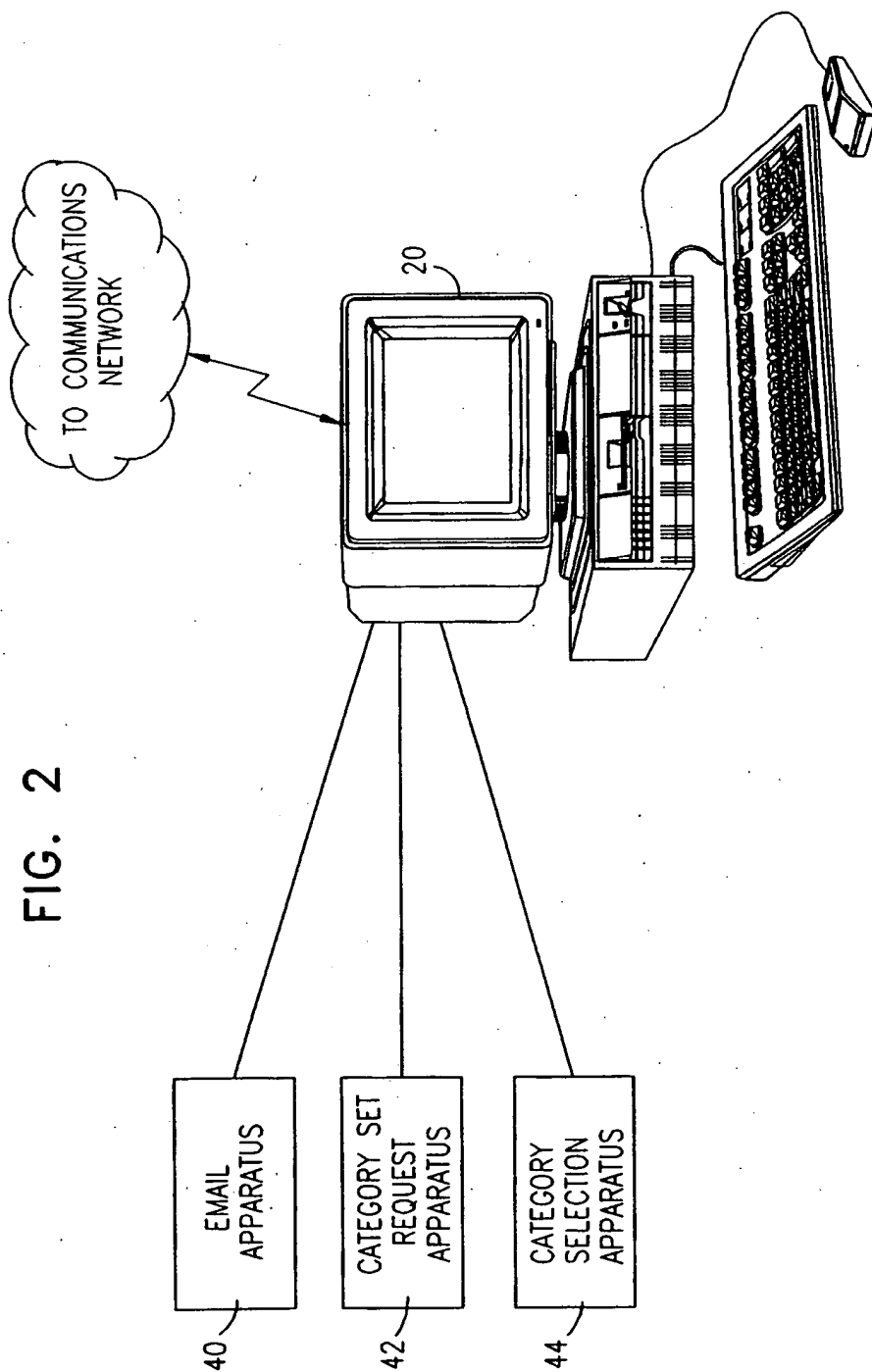


read an electronic mail address from the message; and  
automatically send to the non-user a promotional message.

FIG. 1

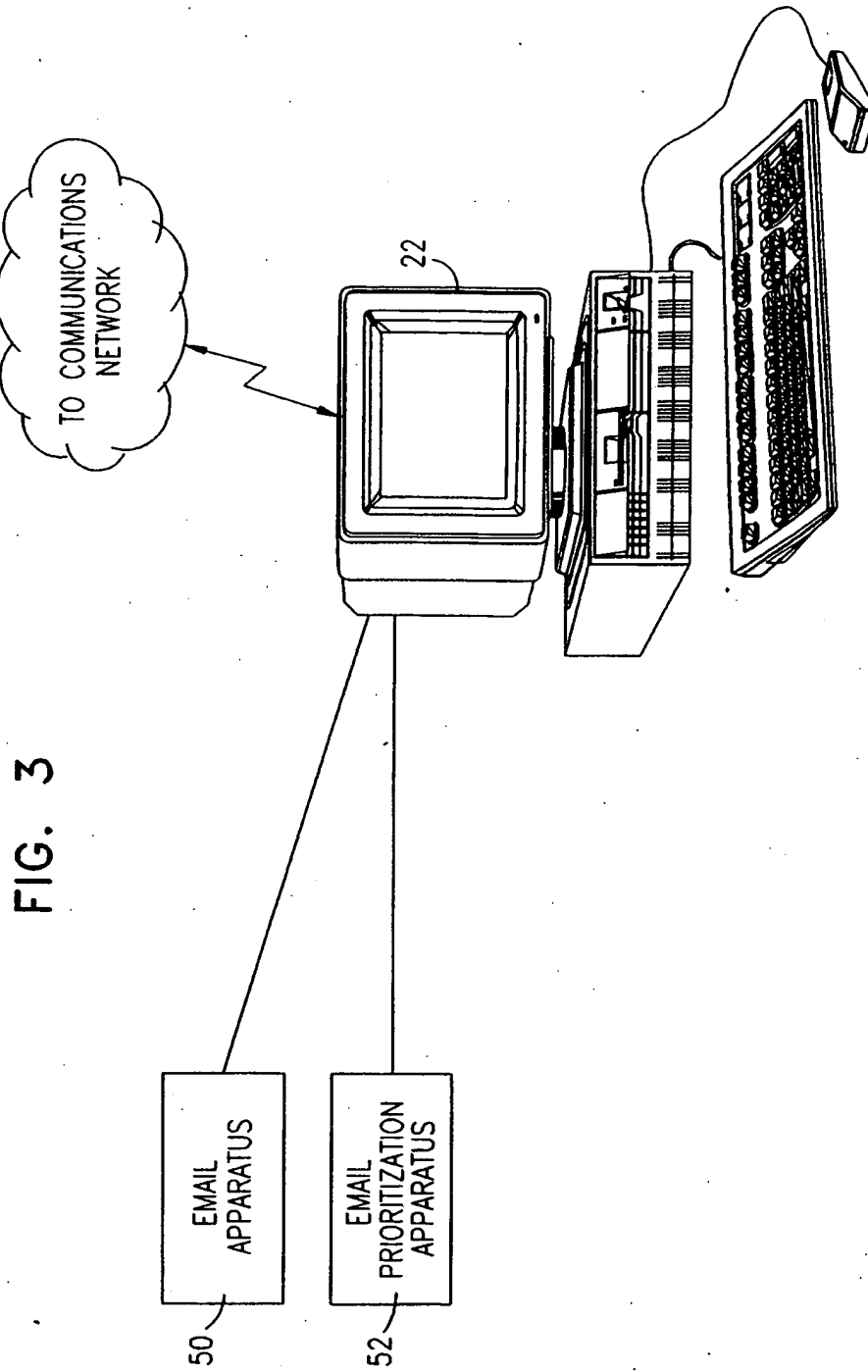


2/10



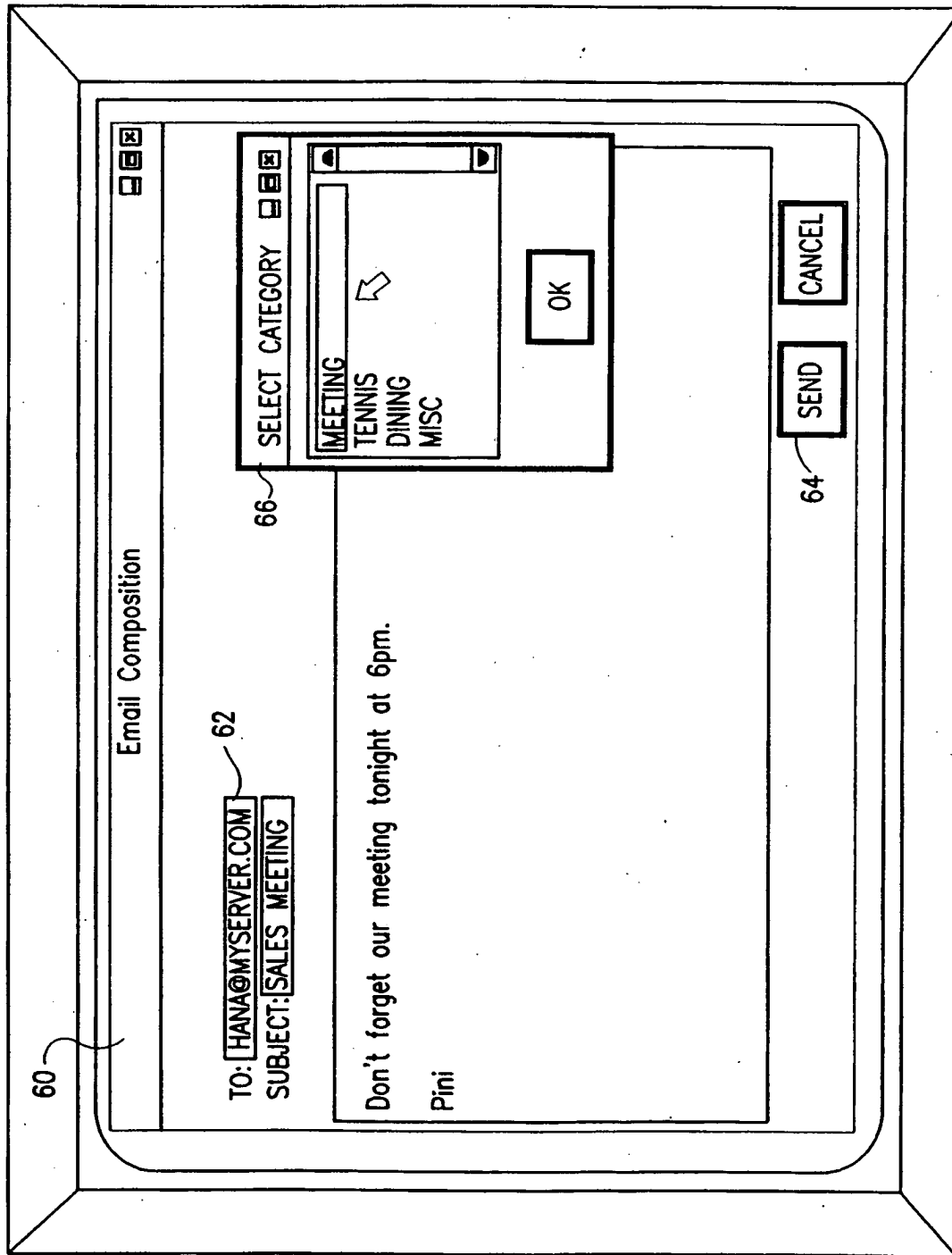
16

3/10



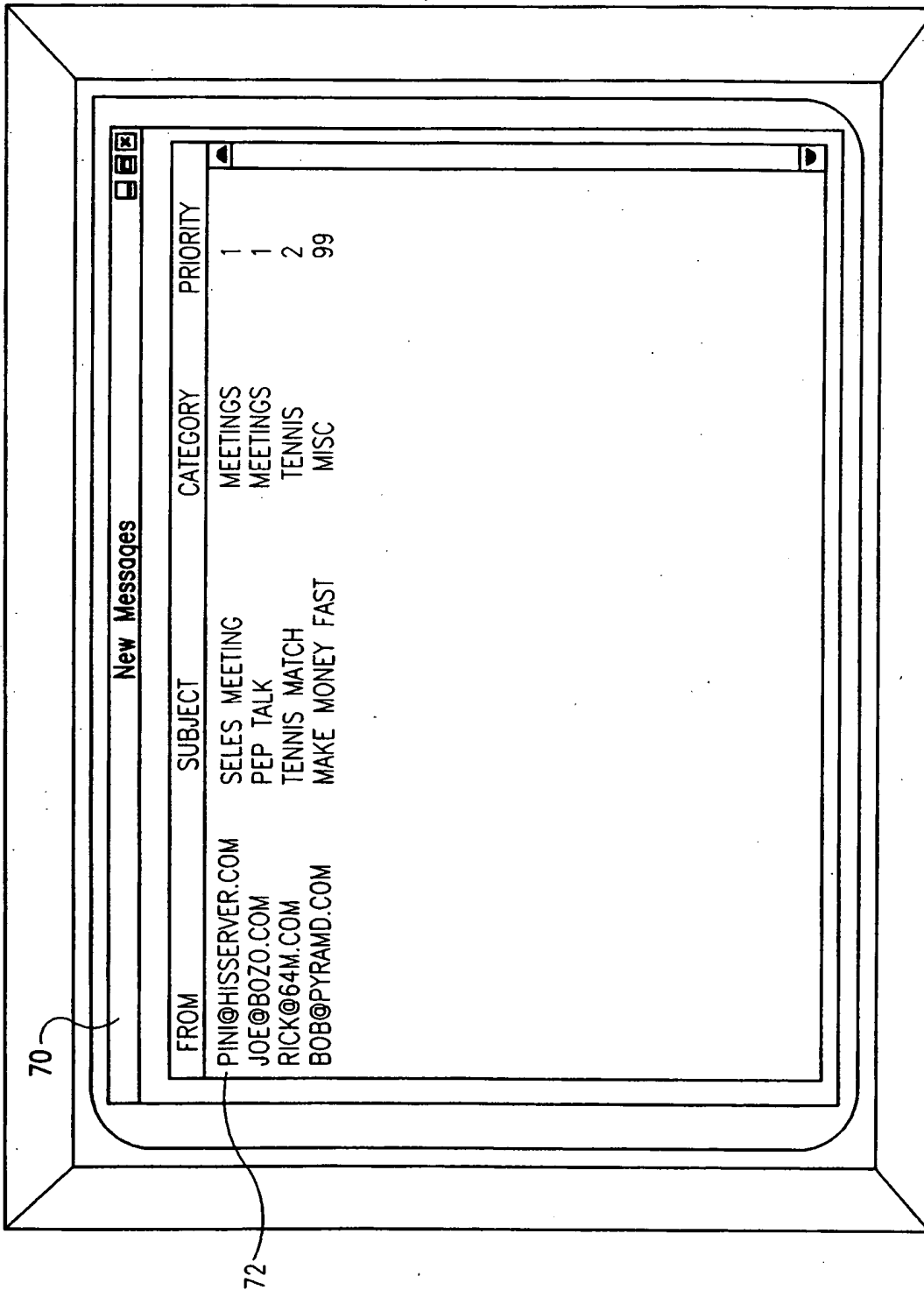
4/10

FIG. 4



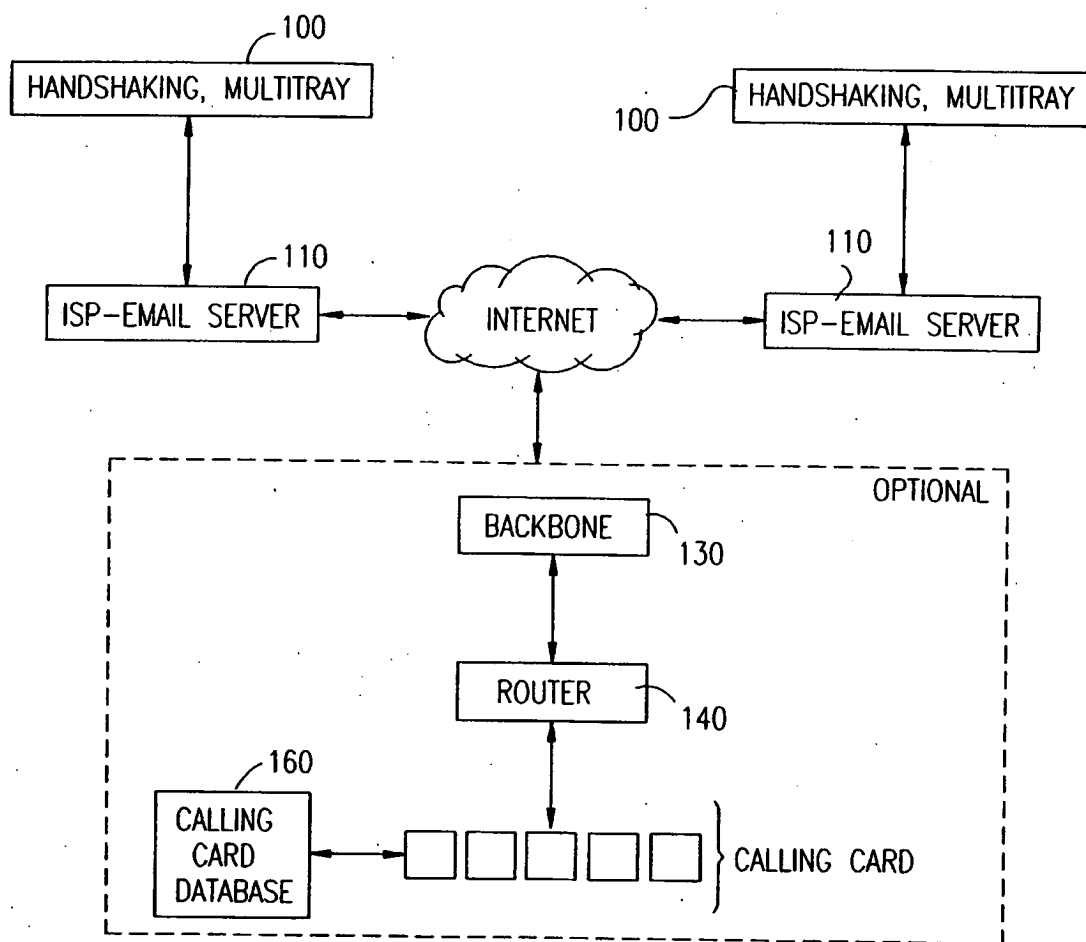
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FIG. 5



6/10

FIG. 6



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FIG. 7

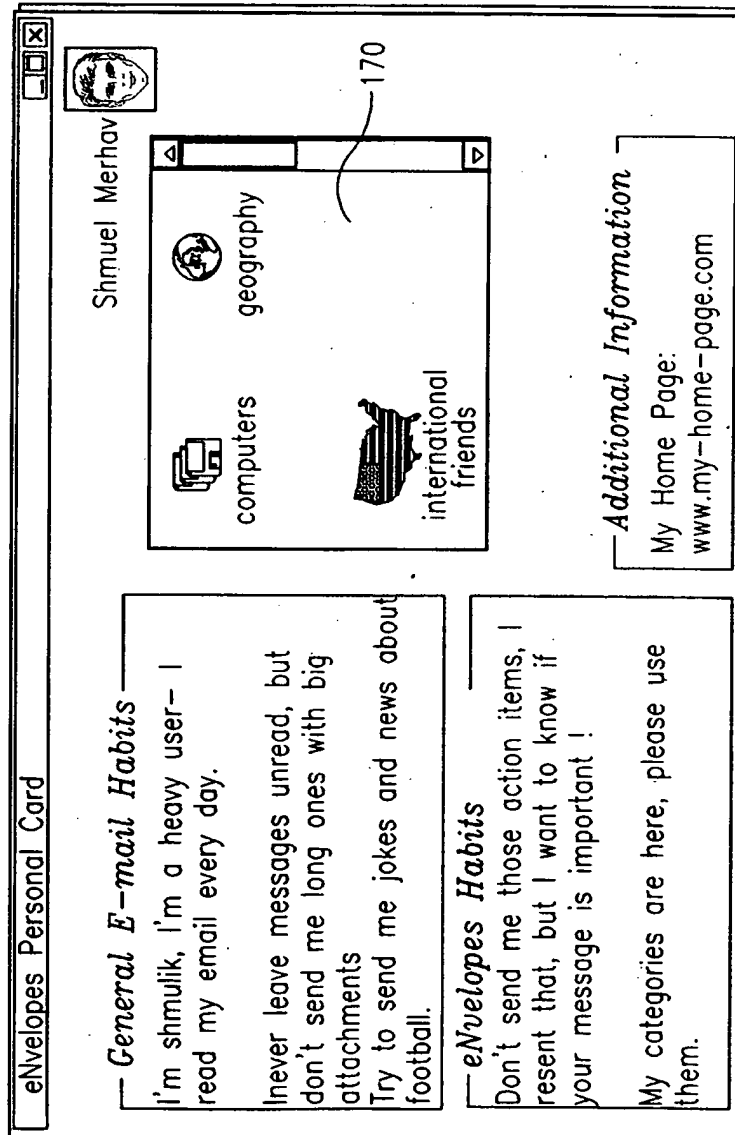




FIG. 8

Send New Message

Confirm

Action

Reply

put the balls on the right dates

Jan 1999

Jan

1999

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
| 27 | 28 | 29 | 30 | 31 | 1  | 2  |
| 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 1  | 2  | 3  | 4  | 5  | 6  |

Done

From: John Doe

Complexity: High Complexity

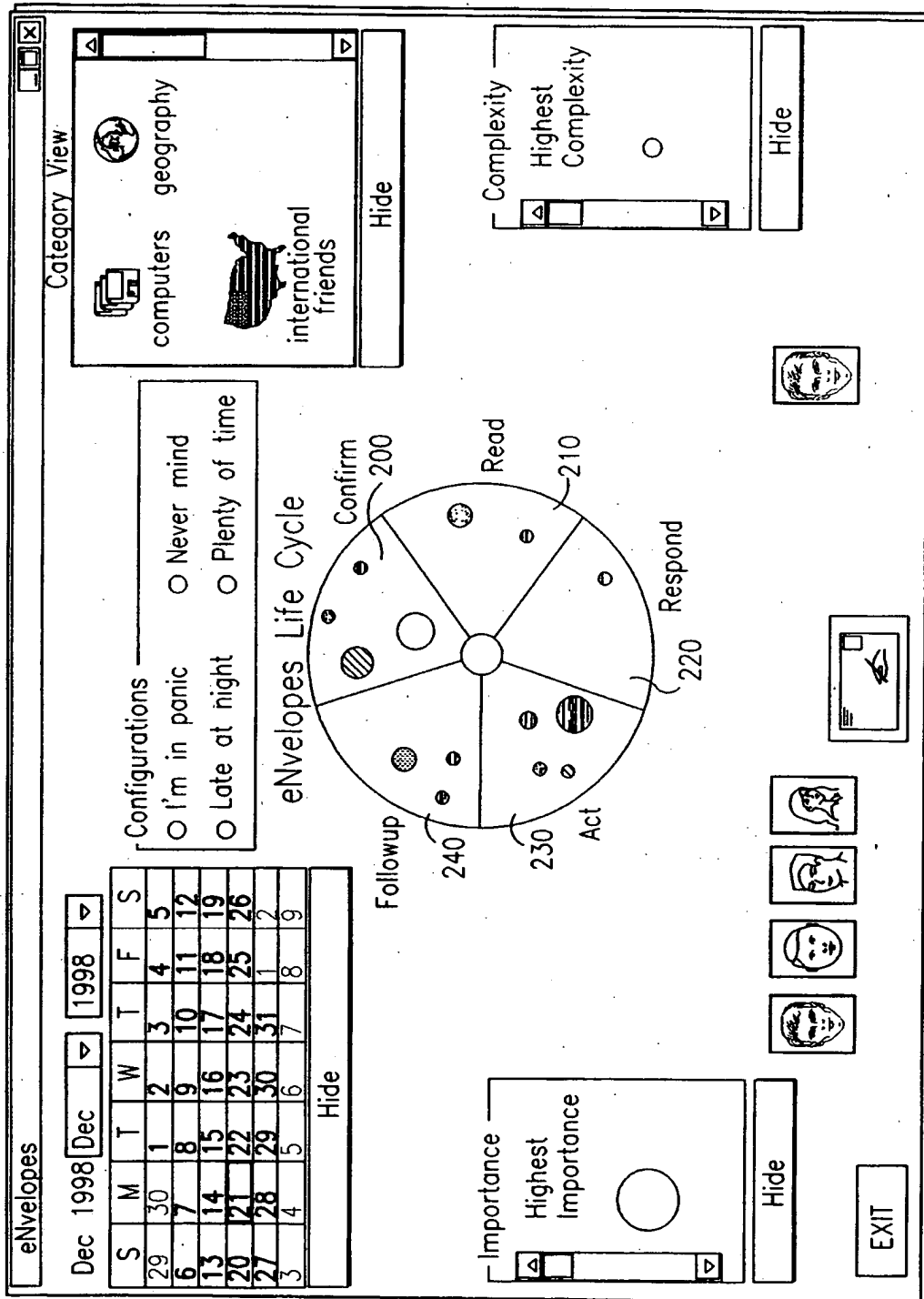
Confirm Until: 3/4/99

Action Until: 10/4/99

Priority: High Priority

Answer Until: 12/4/99

FIG. 9



10/10

FIG. 10

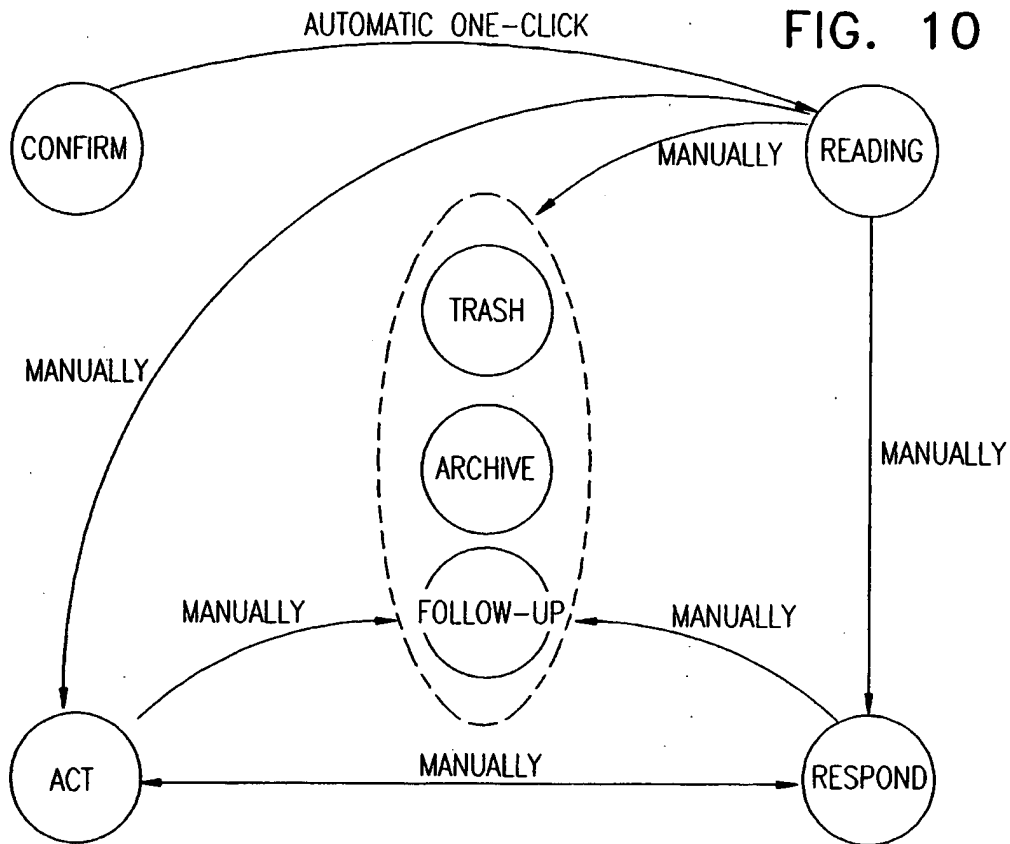


FIG. 11

